

Please amend the application as follows:

Amendments to the Specification

Please replace the paragraph beginning at page 28, line 19 through page 29, line 4 with the following amended paragraph:

The full-length cellulase expressed in *E. coli* has been characterized (Halldorsdottir, S. *et al.*, *Appl Microbiol Biotechnol*, 49:277-284 (1998)). However, all activity tests described herein were conducted using full-length Cel12A and all variants. The full-length enzyme and all variants were tested with and without the His-tag (His₆), and no differences in properties were observed. The effect of temperature on activity was investigated by incubating the proteins at temperatures ranging from 40°C to 105°C and then assaying for enzymatic activity. The activity of full-length Cel12A and Cel12A(sp-)H increased up to 105°C, while Δ Cel12AH displayed maximal activity at about 90°C (Table 1). The variant forms of the cellulase retained 95% - 100% of their initial activity after 16 hours at 85°C. The half-life of activity at 90°C for full-length Cel12A was 3 hours, for Δ Cel12AH was 2 hours and for Cel12(sp-)H was 5 hours. The pH optima for the full-length enzyme and the variants were similar. All proteins were active over a broad pH range and expressed over 40% of maximal activity at pH ranging from about 4.0 to about 8.0 and over 20% of maximal activity at pH 10.

Please replace the table on page 30 with the following amended table:

Table 1

	Optimal temperature for catalysis (°C)	T _m /T _m * (°C)	specific activity on CMC (U/mg)	T _½ at 90 °C (hours)
Cel12A	>105	aggregates/120.0	0.7	3
ΔCel12AH	90	94.5/106.6	2.7	2
Cel12A(sp-)-H	>105	102.9/NE	3.1	5
Cel12A(sp-)	>105	103.2/120.0	3.1	Retained 80% activity after 16 hours 45 minutes at 100°C

NE - not examined

T_m - unfolding temperature in 20 mM Tris-HCL pH7.5

T_m* - unfolding temperature in 20 mM Tris-HCL pH7.5/0.5% SDS